

## CLAIMS

### WHAT IS CLAIMED IS:

- 1                   1.     A primer set for identifying a killer-cell  
2 immunoglobulin-like receptor (KIR) allele, comprising:  
3                   a first primer pair that comprises a first primer and second  
4 primer capable of producing an amplicon that is less than or 1000 bases  
5 in length from an intra-exon portion of a nucleic acid that encodes for an  
6 extracellular portion of a KIR.
- 1                   2.     The primer set of claim 1, further comprising:  
2                   one or more additional primer pairs that comprise a first primer  
3 and second primer capable of producing an amplicon that is less than or  
4 1000 bases in length from an intra-exon portion of a nucleic acid that  
5 encodes for an extracellular portion of one or more additional KIRs.
- 1                   3.     The primer set of claim 1 wherein the primer set  
2 comprises primer pairs that are capable of identifying all presently known  
3 KIRs.
- 1                   4.     The primer set of claim 3 wherein a majority of the  
2 primer pairs comprise primers that are capable of producing an amplicon  
3 that is less than or 1000 bases in length from an intra-exon portion of a  
4 nucleic acid that encodes for an extracellular portion of the KIR.
- 1                   5.     A primer set for identifying all of the presently known  
2 KIR alleles comprising:  
3                   a plurality of primer pairs that are capable of identifying all  
4 presently known KIR alleles, wherein a majority of the primer pairs are  
5 capable of producing an amplicon that is less than or 1000 bases in  
6 length from a nucleic acid that encodes a KIR.

1                   6.     The primer set of claim 5 wherein one or more of the  
2 primer pairs of the majority of the primer pairs are capable of producing  
3 an amplicon that is less than or 1000 bases in length from a nucleic acid  
4 that encodes for an extracellular portion of a KIR.

1                   7.     The primer set of claim 6 wherein one or more of the  
2 primer pairs of the majority of the primer pairs are capable of producing  
3 an amplicon that is less than or 1000 bases in length from an intra-exon  
4 portion of a nucleic acid encoding for an extracellular portion of a KIR.

1                   8.     The primer set of claim 5 wherein a majority of the  
2 primer pairs are capable of producing an amplicon that less than or 500  
3 bases in length.

1                   9.     The primer set of claim 8 wherein a majority of the  
2 primer pairs are capable of producing an amplicon that less than or 250  
3 bases in length.

1                   10.    The primer set of claim 5, wherein a majority of the  
2 primer pairs are capable of producing an amplicon from 150 to 1000  
3 bases in length.

1                   11.    The primer set of claim 5 wherein one or more of the  
2 primer pairs of the majority of the primer pairs are capable of producing  
3 an amplicon that is less than or 1000 bases in length from an intra-exon  
4 portion of a nucleic acid that encodes for a portion of a KIR.

1                   12.    The primer set of claim 7 wherein the intra-exon or  
2 extracellular portion of the KIR receptor is encoded by any one of KIR  
3 exons 1-8.

1                   13. The primer set of claim 5 wherein one or more primer  
2 pairs are capable of producing an amplicon that is greater than 1000  
3 bases in length.

1                   14. The primer set of claim 5, wherein none of the primer  
2 pairs are capable of producing an amplicon greater than or 2000 bases in  
3 length.

1                   15. A method for detecting a KIR allele comprising:  
2                   (a) detecting one or more amplicons produced by the  
3 primer set of claim 5 with a sample having, or suspected of having a KIR  
4 allele.

1                   16. The method of claim 15 further comprising:  
2                   (b) contacting the primer set of claim 5 with a sample  
3 having, or suspected of having a KIR allele, and  
4                   (c) producing one or more amplicons of one or more KIR  
5 alleles with the primer set if a KIR allele for which a primer set is specific  
6 for is present.

1                   17. The method of claim 15, further comprising:  
2                   (b) contacting the sample having, or suspected of having,  
3 a KIR allele with a primer set that has primer pairs that are capable of  
4 producing an amplicon for all presently known KIR alleles.

1                   18. A kit for detecting one or more KIR alleles comprising  
2 the primer set of claim 5.

1                   19. A kit for detecting one or more KIR alleles comprising  
2 the primer set of claim 7.